Miniaturizing Long-Wavelength Antennae Through Creative Implementation of Short-Wavelength Antennae for Transmission and Intercept

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Introduction

Although many orbital communications, navigation and surveillance platforms primarily make use of comparatively high-frequency signals, the need continues to exist for systems which are capable of intercepting and, if need be, broadcasting at ULF and ELF frequencies. These systems tend to be bulky and this makes the platforms more difficult to obscure through miniaturization. If ELF and ULF signals could be captured using antennae ordinarily considered to be too short to support this task, this advancement would render obsolete the bulkier antenna arrays which continue to be maintained and occasionally updated at significant expense.

Abstract

In order to understand how one might go about transmitting or intercepting a long-wavelength signal with a very short antenna, one must understand what is actually transpiring when electrical energy is translated through an antenna into photonic energy. As I've circumscribed in previous publications, electrons flowing through an antenna are actually generating collisions of electrons within the same orbitals which result in the emission of a photon rather than movement of electrons between shells generating the particles. Whole, if transmogrified, electrons are being ejected and rapidly replaced, creating the illusion that the particle being emitted is entirely different from the electron which spawns it. What is actually happening is that electrons are being thrown out of the orbit in a modified state by collisions with other electrons coming from opposing directions. In the process of being sloughed off, these electrons lose much of their mass and are transformed into what we call "photons." The more mass they lose, the more rapidly they may therefore oscillate and thus, it is said they have "greater energy." Immediately after being thrown off, the electrons are replaced by an influx of neutrino energy which, when coupled with the rotational magnetic energy of the positive vacancy left by the electron, results in the establishment of an entirely different electron which can easily be mistaken for the original.

Armed with this understanding, one can begin to understand why a longer aerial generates a longer wavelength.

When an antenna is electrified, the electricity flows between metallic atoms and avoids entering the orbital spaces ordinarily occupied by electrons in the material. It continues to do so until it reaches the end of the length of the antenna. The metal of the antenna has a certain degree of electrical capacitance and begins to accumulate charge. As charge is continually applied, some of the electrons circulating in the antenna begin to infiltrate into the zones occupied by the electrons in the material. The force generated by these electrons disturbs an otherwise harmonious system and leads to

electron-electron collisions (generally two or three traveling in one direction and a single electron traveling in the opposing direction and being knocked out of the orbit forcefully.)

When an antenna is longer, a magnetic field is created which affects the character of these collisions differently depending upon the antenna length. A longer antenna length results in a lesser-degree of mass-reduction of the electrons and the production of “lower-energy” photons because a more shallow direction of projection of the magnetic energy results in electrons “grazing” one another rather than meeting head-on. None of the electrons ever truly collide in these photon-generation events, however, the absolute proximity achieved determines the rate of acceleration of the electrons which determines the extent of mass nullification. As explained in a previous publication, forward momentum is translated into rotational energy and this energy can subsequently be converted into forward momentum. A similar translation of energy is at play in the molecular-level phenomenon of “latent heat,” as has also been delineated by this author.

Therefore, the application of a magnetic field to a shorter-length antenna could be expected to reduce the frequency of the emitted signal. However, this field would have to be very particular in its mode of application against the antenna. The strength of the field generated is less relevant than the angle at which magnetons strike the electrons of the orbitals. The longer the antenna, the more shallow the angle of the projected force.

Even in a shorter antenna, this effect can be enhanced by projecting a series of magnetic souths toward the antenna from all sides excepting the ends of the antennae. These fields do not need to be extremely powerful, but rather, need to be symmetrically applied so that the magnetism generated by the shorter antenna is constrained in a manner commensurate with a longer antenna. If we wrap an antenna in a sheath-configuration solid-state magnet in which the inner portion of the sheath only consists of magnetic souths, the energy level of the emitted photons will be mitigated as the electromagnetically-generated field will be constrained by the externally-applied field associated with the solid-state magnet. Although, in this scheme, the externally-applied magnetic field would not directly impact the production of photons, the field’s effect on the field generated by the flow of current through the antenna, itself, enables that field to behave more like one commensurate with a much longer antenna. When magnetons from this internal field pass through the antenna material at a shallow angle, the electrons flowing through the antenna take a shallow path through the electron clouds of the metallic atoms, similar to a spacecraft bouncing off of the atmosphere due to an angle of descent which is too shallow. With a shorter antenna, the magnetic field generated is tightly constrained and pushes the flowing electrons to pass at extremely steep angles which cut directly through the electron clouds. This behavior leads to more forceful “collisions” (really quasi-collisions) between electrons and leads them to come much much closer than they would when the magnetic field has a more shallow gradient. You may visualize this effect as creating a large depression in a taught piece of elastic with a series of balls moving about on the surface which have a weak tendency to repel one another and, therefore, rarely collide. A modest depressive force in that elastic sheet would result in the

balls gently bumping into one another, perhaps (which in the case of electrons leads to them flying away forcefully but with variant degrees of energy depending upon the nearness of the passage,) however if the fabric were depressed more abruptly by something punching straight through, multiple electrons would converge on that point and would approach one another more nearly, leading to the creation of higher-energy photons. I propose that this is the reason why a short antenna will generate high-energy photons and a long antenna will produce low-energy photons.

When it comes to detecting ELF and ULF radio signals, long antennae are useful for this task due to another unseen phenomenon which this author has circumscribed at some length: Cyclical spin pauses which occur with varying frequency depending upon the wavelength of the light. This author has explained that it's only at the peaks in phase at which spin may pause and that it is this pause; bringing with it the suspension of the discrete magnetism of the photons; which allows for the photons to be pulled into the orbitals of the metallic atoms of the antennae and to have a chance at conversion into an electrical signal.

A shorter antenna has greater difficulty in reproducing the conveyed signal in the case of a low-frequency transmission because its reduced size affords the longer-wavelength light fewer opportunities to be converted into an electrical impulse. Longer antennae also have the effect of acting as their own noise reduction mechanism which blocks out interference from higher frequencies of radio/photonic energy, not unlike the way in which a lens allows for light emanating from a particular focal distance to be retained whilst filtering all others. A shorter antenna, if it were to be utilized for detecting longer-wavelength light, would have to be utilized in an entirely different way in order to be useful in this regard. It would likely be easier to use the shorter antenna with the proposed modification to *broadcast* a low-frequency signal than to use it to *detect* a low-frequency signal. However, I believe that it would be possible to use a very short antenna, if in an unusual way, to detect a long-wave signal.

Direct detection is ruled out by the level of noise which would be inherent, with all ambient electromagnetism at the higher frequencies hopelessly drowning out the lower-frequency signals.

However, we might indirectly measure longer-wavelength radio signals by carefully scrutinizing multiple, shorter-wave signals and by looking for anomalous spikes in amplitude which could serve as signs that the shorter-wavelength signals are being amplified through their interaction with the ambient, long-wave signal for which we are seeking. Ibid. the publication of 6 March 2024, comparatively weak high-frequency signals may be augmented through the projection of lower-frequency energy through the same space as the higher-frequency signal wherein the crests of the low-frequency waves are designed to bisect the mid-point of the high-frequency waves so as to amplify a signal already in flight without causing a distortion.

It stands to reason, therefore, that if we can artificially boost a signal already in-flight, such a phenomenon might already be occurring naturally without our notice of it. Given this sort of phenomenon, we may find that signal content

from ULF and ELF signals may be naturally embedded within higher-frequency signals. Here, we propose not to use light to detect other light (although this is possible under certain specific circumstances) through deviations in angular momentum caused by light's interaction with other light, but rather, propose to measure light through its own tendency to secrete electrical potential into other electromagnetism of a higher frequency traveling through the same space. The tendency seems to be for electromagnetism of lower frequency to act as a universal donor and for the electromagnetism of higher frequency to act as a universal recipient of energy. Although light exerts little mechanical force against other light, its energy may be more readily transferred amongst itself than is currently accepted. This energy transference phenomenon functions a bit like water finding its own level.

The augmentations to the intensity of the offset-frequencies being monitored would be infinitesimal, but would be greatest at frequencies which are multiples of the target frequency. For example, if we are looking to use a short antenna to intercept 30Hz broadcast signals, we might look at a combination of frequencies which are the product of a series of doublings of the frequency which we wish to monitor. 61.440 KHz, 122.880 KHz, and so on would be monitored for correlative spikes in amplitude which do not conform to normal patterns and these spikes could be treated as data attributable to the lower frequencies. If a subtle amplitude spike can be found concomitantly at a series of frequencies which are all multiples of two relative to the target frequency and have, in this hypothetical, a presence at a frequency of 30Hz, then one could conclude that there is a signal present at 30Hz which is providing signal gain to the higher frequencies at that interval.

Conclusion

The practicality of this approach would depend upon experimental verification, but if results are promising, this proposed solution could render difficult-to-hide long-wave arrays obsolete.